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RESEARCH EFFORT TO DEVELOP OPERATIONAL IMPROVEMENTS TO BIOLOGICAL PROGRAMS

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13. ABSTRACT

SYNOPSIS OF ACTIVITIES PERFORMED BY ADVANCED COMPUTER TECHNIQUES CORPORATION IN DEVELOPING NEW BIOLOGY TEST SYSTEMS.

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Foreword

The present contractual effort is a continuation of a research project initiated in August of 1967.

This research is conducted under the overall cognizance of Col. William E. Rothe, V.C. Director of the Division of Medicinal Chemistry, and is conducted under the immediate direction of Lt. Col. Kenneth E. Kinnamon, Head of the Department of Biology.

I. INTRODUCTION

Walter Reed Army Institute of Research (WRAIR) had developed a complex network of computer programming systems for the storage, retrieval and association of chemical structures information and related data resulting from biology tests. These tests were (and are) performed at various medical schools and other laboratories and the results reported to WRAIR. Walter Reed, being the recipient of this data, is faced with accommodating it into a format that can be processed and evaluated at WRAIR. The development of biological programming systems is evolutionary in nature owing chiefly to the experimental nature of the biology test systems and the fact that the test results are not reported in a format prescribed by WRAIR.

Advanced Computer Techniques Corporation (ACT) has supported the research efforts at WRAIR primarily in the area of developing Biological Programming Systems and developing necessary system interfaces with other major systems involved in the WRAIR areas of interest.

During the contractual period covered by this report the following efforts were enacted.

A. Conversion of current biology systems to the UNIVAC 1106 and CDC 3500.
B. The design and implementation of new biology systems.
C. Developing improvements to existing biology systems.
D. Providing production assistance as required.

II. OBJECTIVES

A. Conversion of biology systems to new hardware.
B. Accommodating changes in laboratory procedures employed by medical researchers to the biology systems.
C. New systems designed and implemented as new research is undertaken.

III. ACCOMPLISHMENTS DURING THE YEAR

A. Conversion of biology systems to new hardware.
   1. Within the Rane System, the edit and print programs were converted to the UNIVAC 1106.
   2. The following active biology systems were converted from IBM 7090/94 COBOL to ANSI COBOL for the CDC 3500, Rane, IIT, Antifolic, Thompson, Radiation, Liverpool, Reichmann and Schistomiasis.

B. ACT provided maintenance services to insure that all systems were updated as experimental procedures were changed or added by the researchers.

C. ACT provided liaison services to insure that various biology system measurements were similar and the results could be compared.

D. As system design improvements are added, it is frequently desirable to test previous data and use the results to compare the effectiveness of the new test procedures. In this way the previously collected Rane data was formatted and processed through the new Rane system.

E. Production assistance was provided as required during the contract year for both regular system production/ testing and for data analysis for special conferences.

IV. NEW SYSTEM IMPLEMENTED

A. Programs were developed to provide additional reports from the Compound Inventory Search.

V. CONCLUSION

At the end of the contract year the following current systems were in operation at WRAIR: Rane, IIT, Thompson, Reichmann, Radiation, Liverpool, Antifolic, Schistomiasis and Compound Inventory. Effort is continuing in the development of new biology systems. Improvements are being defined for current operational 7090/94 COBOL systems and the conyersion of these systems to the CDC 3500.